



Cold surge: A sudden and spatially varying threat to health?

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Abstract:

While cold surge is one of the most conspicuous features of the winter monsoon in East Asia, its impact on human health remains underexplored. Based on the definition by the Central Weather Bureau in Taiwan, we identified four cold surges between 2000 and 2003 and collected the cardiovascular disease mortality data 2 weeks before and 2 weeks after these events. We attempted to answer the following research questions: 1) whether the cold surges impose an adverse and immediate effect on cardiovascular mortality; 2) whether the people living in temperate zones have a higher tolerance of extreme temperature drop than those in the subtropics. With geographic weighting techniques, we not only found that the cardiovascular disease mortality rates increased significantly after the cold surges, but also discovered a spatially varying pattern of tolerance to cold surges. Even within a small study area such as Taiwan, human reaction to severe weather drop differs across space. Needless to say, in the U.S., these findings should be considered in redirecting policy to address populations living in warm places when extreme temperature drops occur.

Source: <http://dx.doi.org/10.1016/j.scitotenv.2008.12.044>

Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Temperature

Temperature: Extreme Cold

Geographic Feature:

resource focuses on specific type of geography

Mountain

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Asia

Asian Region/Country: China, Other Asian Region

Climate Change and Human Health Literature Portal

Other Asian Region: Taiwan

Health Impact:

specification of health effect or disease related to climate change exposure

Cardiovascular Effect

Resource Type:

format or standard characteristic of resource

Research Article

Resilience:

capacity of an individual, community, or institution to dynamically and effectively respond or adapt to shifting climate impact circumstances while continuing to function

A focus of content

Timescale:

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment:

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

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